

IN THE CLAIMS:

Please amend claims 1-8 as follows.

1. (Currently Amended) A display device comprising:

a plurality of pixels disposed in matrix over a substrate;

an active matrix circuit comprising a plurality of pixel TFTs ~~disposed in matrix~~ over said substrate; and

a source driver and a gate driver which drive said active matrix circuit,

wherein n bit information out of m bit digital video data inputted from an external is used for a voltage gray scale method, and (m-n) bit information is used for a time ratio gray scale method, where said m and said n are integers equal to or larger than 2 and satisfy  $m > n$ , and

wherein a gray scale display level of one frame period of one pixel among said plurality of pixels corresponds to a value obtained by averaging gray scale voltage levels inputted in each subframe period contained in said one frame period.

2. (Currently Amended) A display device comprising:

a plurality of pixels disposed in matrix over a substrate;

an active matrix circuit comprising a plurality of pixel TFTs ~~disposed in matrix~~ over said substrate; and

a source driver and a gate driver which drive said active

matrix circuit,

wherein n bit information out of m bit digital video data inputted from an external is used for a voltage gray scale method, and (m-n) bit information is used for a time ratio gray scale method, where said m and said n are integers equal to or larger than 2 and satisfy  $m > n$ ,

wherein a gray scale display level of one frame period of one pixel among said plurality of pixels corresponds to a value obtained by averaging gray scale voltage levels inputted in each subframe period contained in said one frame period, and

wherein said one frame period comprises  $2^{m-n}$  subframe periods.

3. (Currently Amended) A display device comprising:

a plurality of pixels disposed in matrix over a substrate;

an active matrix circuit comprising a plurality of pixel TFTs ~~disposed in matrix~~ over [[a]] said substrate;

a source driver and a gate driver which drive said active matrix circuit over said substrate; and

a circuit which converts m bit digital video data inputted from an external into n bit digital video data and provides said n bit digital video data to said source driver, where said m and said n are integers equal to or larger than 2 and satisfy  $m > n$ , wherein said circuit is formed over said

substrate, [[and]]

wherein a gray scale display level of one frame period of one pixel among said plurality of pixels corresponds to a value obtained by averaging gray scale voltage levels inputted in each subframe period contained in said one frame period.

~~wherein one frame image comprises  $2^{m-n}$  subframes.~~

4. (Currently Amended) A display device comprising:

a plurality of pixels disposed in matrix over a substrate;

*Dont* an active matrix circuit comprising a plurality of pixel TFTs ~~disposed in matrix~~ over [[a]] said substrate;

a source driver and a gate driver which drive said active matrix circuit over said substrate; and

a circuit which converts m bit digital video data inputted from an external into n bit digital video data and provides said n bit digital video data to said source driver, where said m and said n are integers equal to or larger than 2 and satisfy  $m > n$ , wherein said circuit is formed over said substrate, [[and]]

wherein a gray scale display level of one frame period of one pixel among said plurality of pixels corresponds to a value obtained by averaging gray scale voltage levels inputted in each subframe period contained in said one frame period, and

wherein one frame image comprises  $2^{m-n}$  subframes.

5. (Currently Amended) A display device comprising:

a plurality of pixels disposed in matrix over a substrate;

an active matrix circuit comprising a plurality of pixel TFTs ~~disposed in matrix~~ over said substrate; and

a source driver and a gate driver which drive said active matrix circuit,

wherein n bit information out of m bit digital video data inputted from an external is used for a voltage gray scale method and (m-n) bit information is used for a time ratio gray scale method, where said m and said n are integers equal to or larger than 2 and satisfy  $m > n$ ,

wherein a gray scale display level of one frame period of one pixel among said plurality of pixels corresponds to a value obtained by averaging gray scale voltage levels inputted in each subframe period contained in said one frame period, and

wherein an image is displayed by an image gray scale of  $(2^m - (2^{m-n} - 1))$  patterns.

6. (Currently Amended) A display device comprising:

a plurality of pixels disposed in matrix over a substrate;

an active matrix circuit comprising a plurality of pixel TFTs ~~disposed in matrix~~ over said substrate; and

a source driver and a gate driver which drive said active matrix circuit,

wherein n bit information out of m bit digital video data inputted from an external is used for a voltage gray scale method and (m-n) bit information is used for a time ratio gray scale method, where said m and said n are integers equal to or larger than 2 and satisfy  $m > n$ ,

wherein a gray scale display level of one frame period of one pixel among said plurality of pixels corresponds to a value obtained by averaging gray scale voltage levels inputted in each subframe period contained in said one frame period,

wherein said one frame period comprises  $2^{m-n}$  subframe periods, and

wherein an image is displayed by an image gray scale of  $(2^m - (2^{m-n} - 1))$  patterns.

7. (Currently Amended) A display device comprising:

a plurality of pixels disposed in matrix over a substrate;

an active matrix circuit comprising a plurality of pixel TFTs ~~disposed in matrix~~ over [[a]] said substrate;

a source driver and a gate driver which drive said active matrix circuit over said substrate; and

a circuit which converts m bit digital video data inputted from an external into n bit digital video data and

provides said n bit digital video data to said source driver, wherein said m and said n are integers equal to or larger than 2 and satisfy  $m > n$ , wherein said circuit is formed over said substrate, [[and]]

wherein a gray scale display level of one frame period of one pixel among said plurality of pixels corresponds to a value obtained by averaging gray scale voltage levels inputted in each subframe period contained in said one frame period, and

wherein an image is displayed by an image gray scale of  $(2^m - (2^{m-n} - 1))$  patterns.

8. (Currently Amended) A display device comprising:

*Don't*  
a plurality of pixels disposed in matrix over a substrate;

an active matrix circuit comprising a plurality of pixel TFTs ~~disposed in matrix~~ over [[a]] said substrate;

a source driver and a gate driver which drive said active matrix circuit over said substrate; and

a circuit which converts m bit digital video data inputted from an external into n bit digital video data and provides said n bit digital video data to said source driver, wherein said m and said n are integers equal to or larger than 2 and satisfy  $m > n$ , wherein said circuit is formed over said substrate,

wherein a gray scale display level of one frame period of

one pixel among said plurality of pixels corresponds to a value obtained by averaging gray scale voltage levels inputted in each subframe period contained in said one frame period,

wherein one frame image comprises  $2^{m-n}$  subframes, and

wherein an image is displayed by an image gray scale of  $(2^m - (2^{m-n} - 1))$  patterns.

9. (Previously Presented) A display device according to claim 1 wherein said display device comprises thresholdless antiferroelectric mixed liquid crystal indicating electro-optical characteristic of V-shape.

*Don't* 10. (Previously Presented) A display device according to claim 1 wherein said m is 8 and said n is 2.

11. (Previously Presented) A display device according to claim 1 wherein said m is 12 and said n is 4.

12. (Previously Presented) A rear projector comprising three of the display devices according to claim 1.

13. (Previously Presented) A front projector comprising three of the display devices according to claim 1.

14. (Previously Presented) A single plate type rear

projector comprising a display device according to claim 1.

15. (Previously Presented) A goggle type display comprising two of the display device according to claim 1.

16. (Previously Presented) A portable information terminal comprising a display device according to claim 1.

17. (Previously Presented) A notebook type personal computer comprising a display device according to claim 1.

18. (Previously Presented) An EL display comprising a display device according to claim 1.

*Don't*  
19. (Previously Presented) A display device according to claim 2 wherein said display device comprises thresholdless antiferroelectric mixed liquid crystal indicating electro-optical characteristic of V-shape.

20. (Previously Presented) A display device according to claim 3 wherein said display device comprises thresholdless antiferroelectric mixed liquid crystal indicating electro-optical characteristic of V-shape.

21. (Previously Presented) A display device according to



claim 4 wherein said display device comprises thresholdless antiferroelectric mixed liquid crystal indicating electro-optical characteristic of V-shape.

22.(Previously Presented) A display device according to claim 5 wherein said display device comprises thresholdless antiferroelectric mixed liquid crystal indicating electro-optical characteristic of V-shape.

23.(Previously Presented) A display device according to claim 6 wherein said display device comprises thresholdless antiferroelectric mixed liquid crystal indicating electro-optical characteristic of V-shape.

① cont  
24.(Previously Presented) A display device according to claim 7 wherein said display device comprises thresholdless antiferroelectric mixed liquid crystal indicating electro-optical characteristic of V-shape.

25.(Previously Presented) A display device according to claim 8 wherein said display device comprises thresholdless antiferroelectric mixed liquid crystal indicating electro-optical characteristic of V-shape.

26.(Previously Presented) A display device according to

claim 2 wherein said m is 8 and said n is 2.

27. (Previously Presented) A display device according to claim 3 wherein said m is 8 and said n is 2.

28. (Previously Presented) A display device according to claim 4 wherein said m is 8 and said n is 2.

29. (Previously Presented) A display device according to claim 5 wherein said m is 8 and said n is 2.

30. (Previously Presented) A display device according to claim 6 wherein said m is 8 and said n is 2.

*Dont*  
31. (Previously Presented) A display device according to claim 7 wherein said m is 8 and said n is 2.

32. (Previously Presented) A display device according to claim 8 wherein said m is 8 and said n is 2.

33. (Previously Presented) A display device according to claim 2 wherein said m is 12 and said n is 4.

34. (Previously Presented) A display device according to claim 3 wherein said m is 12 and said n is 4.

35. (Previously Presented) A display device according to claim 4 wherein said m is 12 and said n is 4.

36. (Previously Presented) A display device according to claim 5 wherein said m is 12 and said n is 4.

37. (Previously Presented) A display device according to claim 6 wherein said m is 12 and said n is 4.

38. (Previously Presented) A display device according to claim 7 wherein said m is 12 and said n is 4.

*Don't* 39. (Previously Presented) A display device according to claim 8 wherein said m is 12 and said n is 4.

40. (Previously Presented) A rear projector comprising three of the display devices according to claim 2.

41. (Previously Presented) A rear projector comprising three of the display devices according to claim 3.

42. (Previously Presented) A rear projector comprising three of the display devices according to claim 4.

43. (Previously Presented) A rear projector comprising three of the display devices according to claim 5.

44. (Previously Presented) A rear projector comprising three of the display devices according to claim 6.

45. (Previously Presented) A rear projector comprising three of the display devices according to claim 7.

46. (Previously Presented) A rear projector comprising three of the display devices according to claim 8.

*Don't* 47. (Previously Presented) A front projector comprising three of the display devices according to claim 2.

48. (Previously Presented) A front projector comprising three of the display devices according to claim 3.

49. (Previously Presented) A front projector comprising three of the display devices according to claim 4.

50. (Previously Presented) A front projector comprising three of the display devices according to claim 5.

51. (Previously Presented) A front projector comprising

three of the display devices according to claim 6.

52.(Previously Presented) A front projector comprising three of the display devices according to claim 7.

53.(Previously Presented) A front projector comprising three of the display devices according to claim 8.

54.(Previously Presented) A single plate type rear projector comprising a display device according to claim 2.

55.(Previously Presented) A single plate type rear projector comprising a display device according to claim 3.

56.(Previously Presented) A single plate type rear projector comprising a display device according to claim 4.

57.(Previously Presented) A single plate type rear projector comprising a display device according to claim 5.

58.(Previously Presented) A single plate type rear projector comprising a display device according to claim 6.

59.(Previously Presented) A single plate type rear projector comprising a display device according to claim 7.

60. (Previously Presented) A single plate type rear projector comprising a display device according to claim 8.

61. (Previously Presented) A goggle type display comprising two of the display device according to claim 2.

62. (Previously Presented) A goggle type display comprising two of the display device according to claim 3.

63. (Previously Presented) A goggle type display comprising two of the display device according to claim 4.

*Don't*  
64. (Previously Presented) A goggle type display comprising two of the display device according to claim 5.

65. (Previously Presented) A goggle type display comprising two of the display device according to claim 6.

66. (Previously Presented) A goggle type display comprising two of the display device according to claim 7.

67. (Previously Presented) A goggle type display comprising two of the display device according to claim 8.

68. (Previously Presented) A portable information terminal comprising a display device according to claim 2.

69. (Previously Presented) A portable information terminal comprising a display device according to claim 3.

70. (Previously Presented) A portable information terminal comprising a display device according to claim 4.

71. (Previously Presented) A portable information terminal comprising a display device according to claim 5.

*Dont* 72. (Previously Presented) A portable information terminal comprising a display device according to claim 6.

73. (Previously Presented) A portable information terminal comprising a display device according to claim 7.

74. (Previously Presented) A portable information terminal comprising a display device according to claim 8.

75. (Canceled)

76. (Previously Presented) A notebook type personal computer comprising a display device according to claim 2.

77.(Previously Presented) A notebook type personal computer comprising a display device according to claim 3.

78.(Previously Presented) A notebook type personal computer comprising a display device according to claim 4.

79.(Previously Presented) A notebook type personal computer comprising a display device according to claim 5.

80.(Previously Presented) A notebook type personal computer comprising a display device according to claim 6.

81.(Previously Presented) A notebook type personal computer comprising a display device according to claim 7.

82.(Previously Presented) A notebook type personal computer comprising a display device according to claim 8.

83.(Previously Presented) An EL display comprising a display according to claim 2.

84.(Previously Presented) An EL display comprising a display device according to claim 3.



83. (Canceled)

85. (Previously Presented) An EL display comprising a display device according to claim 5.

86. (Previously Presented) An EL display comprising a display device according to claim 6.

87. (Previously Presented) An EL display comprising a display device according to claim 7.

①! cont 88. (Previously Presented) An EL display comprising a display device according to claim 8.

89. (Previously Presented) A mobile telephone comprising a display device according to claim 1.

90. (Previously Presented) A mobile telephone comprising a display device according to claim 2.

91. (Previously Presented) A mobile telephone comprising a display device according to claim 3.

92. (Previously Presented) A mobile telephone comprising a display device according to claim 4.

93. (Previously Presented) A mobile telephone comprising a display device according to claim 5.

94. (Previously Presented) A mobile telephone comprising a display device according to claim 6.

95. (Previously Presented) A mobile telephone comprising a display device according to claim 7.

96. (Previously Presented) A mobile telephone comprising a display device according to claim 8.

*Don't* 97. (Previously Presented) A video camera comprising a display device according to claim 1.

98. (Previously Presented) A video camera comprising a display device according to claim 2.

99. (Previously Presented) A video camera comprising a display device according to claim 3.

100. (Previously Presented) A video camera comprising a display device according to claim 4.

101. (Previously Presented) A video camera comprising a display device according to claim 5.

102. (Previously Presented) A video camera comprising a display device according to claim 6.

103. (Previously Presented) A video camera comprising a display device according to claim 7.

104. (Previously Presented) A video camera comprising a display device according to claim 8.

*Dant*  
105. (Previously Presented) A mobile computer comprising a display device according to claim 1.

106. (Previously Presented) A mobile computer comprising a display device according to claim 2.

107. (Previously Presented) A mobile computer comprising a display device according to claim 3.

108. (Previously Presented) A mobile computer comprising a display device according to claim 4.

109. (Previously Presented) A mobile computer comprising a

display device according to claim 5.

110. (Previously Presented) A mobile computer comprising a display device according to claim 6.

111. (Previously Presented) A mobile computer comprising a display device according to claim 7.

112. (Previously Presented) A mobile computer comprising a display device according to claim 8.

113. (Previously Presented) A portable electronic book comprising a display device according to claim 1.

*Don't*  
114. (Previously Presented) A portable electronic book comprising a display device according to claim 2.

115. (Previously Presented) A portable electronic book comprising a display device according to claim 3.

116. (Previously Presented) A portable electronic book comprising a display device according to claim 4.

117. (Previously Presented) A portable electronic book comprising a display device according to claim 5.

118. (Previously Presented) A portable electronic book comprising a display device according to claim 6.

119. (Previously Presented) A portable electronic book comprising a display device according to claim 7.

120. (Previously Presented) A portable electronic book comprising a display device according to claim 8.

121. (Previously Presented) A personal computer comprising a display device according to claim 1.

① cont 122. (Previously Presented) A personal computer comprising a display device according to claim 2.

123. (Previously Presented) A personal computer comprising a display device according to claim 3.

124. (Previously Presented) A personal computer comprising a display device according to claim 4.

125. (Previously Presented) A personal computer comprising a display device according to claim 5.

126. (Previously Presented) A personal computer comprising a display device according to claim 6.

127. (Previously Presented) A personal computer comprising a display device according to claim 7.

128. (Previously Presented) A personal computer comprising a display device according to claim 8.

129. (Previously Presented) An electronic game equipment comprising a display device according to claim 1.

130. (Previously Presented) An electronic game equipment comprising a display device according to claim 2.

131. (Previously Presented) An electronic game equipment comprising a display device according to claim 3.

132. (Previously Presented) An electronic game equipment comprising a display device according to claim 4.

133. (Previously Presented) An electronic game equipment comprising a display device according to claim 5.

134. (Previously Presented) An electronic game equipment

comprising a display device according to claim 6.

135. (Previously Presented) An electronic game equipment comprising a display device according to claim 7.

136. (Previously Presented) An electronic game equipment comprising a display device according to claim 8.

137. (Previously Presented) An image reproduction device comprising a display device according to claim 1.

*Dont* 138. (Previously Presented) An image reproduction device comprising a display device according to claim 2.

139. (Previously Presented) An image reproduction device comprising a display device according to claim 3.

140. (Previously Presented) An image reproduction device comprising a display device according to claim 4.

141. (Previously Presented) An image reproduction device comprising a display device according to claim 5.

142. (Previously Presented) An image reproduction device comprising a display device according to claim 6.

143. (Previously Presented) An image reproduction device comprising a display device according to claim 7.

144. (Previously Presented) An image reproduction device comprising a display device according to claim 8.

145. (Previously Presented) A digital camera comprising a display device according to claim 1.

*Dont* 146. (Previously Presented) A digital camera comprising a display device according to claim 2.

147. (Previously Presented) A digital camera comprising a display device according to claim 3.

148. (Previously Presented) A digital camera comprising a display device according to claim 4.

149. (Previously Presented) A digital camera comprising a display device according to claim 5.

150. (Previously Presented) A digital camera comprising a display device according to claim 6.



151. (Previously Presented) A digital camera comprising a display device according to claim 7.

152. (Previously Presented) A digital camera comprising a display device according to claim 8.

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153. (Previously Presented) An EL display comprising a display device according to claim 4.

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